

Application No.: 10/591,457

**REMARKS**

Claims 1-7 stand rejected under 35 U.S.C. § 102 as being anticipated by the technical publication authored by Yamamoto et al. ("Yamamoto"). Claim 1 is independent. This rejection is respectfully traversed for the following reasons.

Claim 1 recites in pertinent part, "...wherein of the DPMs, basic DPMs, each of which is a DPM between a path metric for a reference state and a path metric for another state, are retained and the most likely paths are selected *according to the basic DPMs*." The Examiner alleges that Section PSSMA of Yamamoto on page 258 thereof is allegedly relevant to the aforementioned feature of the present invention. The Examiner's position is not understood, as Yamamoto is completely silent with regard to *basic* DPMs as a subset of conventional DPMs. Yamamoto does not define a basic DPM, much less specifically as a DPM *between metrics* (i.e., a path metric for a reference state and a path metric for another state). It follows that most likely paths in Yamamoto are selected according to conventional DPMs, not basic DPMs.

That is, Yamamoto merely discloses conventional DPMs. Indeed, Yamamoto expressly discloses that its design is configured to realize a "reduction of registers dramatically by fundamental reconstruction of the conventional architecture" (page 258, paragraph 3). In fact, this design of Yamamoto, and its corresponding drawbacks, is expressly described on page 3, lines 12-16 of Applicants' specification as admitted prior art. Specifically, according to the design of Yamamoto, "in order to suppress the increase in the *size of the retaining circuit*, an ACS circuit in which the number of DPMs to be retained is limited has been developed ... [t]his ACS circuit, however, *uses typical branch metrics in addition to DBMs in calculating the DPMs and thus has a problem in that square calculations are necessary*" (emphasis added).

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As noted above, Yamamoto merely describes a configuration in which the number of DPMs to be retained is limited, but where all necessary DPMs for calculating the most likely paths are retained in the conventional manner. For example, as shown in Figure 4 thereof, Yamamoto retains DPMs (DPM01, DPM12, DPM25, DPM54, DPM43 and DPM30) concerned with all states. Yamamoto fails to disclose or suggest retaining basic DPMs, much less defining basic DPMs to be retained as a subset of the DPMs.

On the other hand, according to one aspect of the present invention, all DPMs do not have to be retained whereby its sufficient if just some of the DPMs (i.e., basic DPMs) are retained. Accordingly, the size of the circuit for retaining the DPMs can be made relatively small. In addition, in the ACS circuit, the most likely paths can be selected according to the metric differences. This can eliminate path metric overflows without decreasing the processing rate. In this regard, for example, assuming there are four states (state0, state1, state2 and state3), the conventional ACS circuit would retain six DPMs (DPM01, DPM02, DPM03, DPM12, DPM13 and DPM23) for calculating the most likely paths. In contrast, according to one aspect of the present invention as embodied in claim 1, it can be made possible for only three DPMs (basic DPMs; DPM01, DPM02 and DPM03) to be retained in which state0 *is a reference state*. Yamamoto is completely silent as to defining basic DPMs, much less basic DPMS each of which is a DPM between a path metric for a reference state and a path metric for another state. Only Applicants have recognized and considered the aforementioned effects, and conceived of the novel and non-obvious combination which can make it possible to realize said effects.

As anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed, either expressly or inherently (noting that "inherency may not be established by probabilities or possibilities", *Scaltech Inc. v. Retec/Tetra*, 178 F.3d 1378 (Fed. Cir. 1999)), in a

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single prior art reference, *Akzo N.V. v. U.S. Int'l Trade Commission*, 808 F.2d 1471 (Fed. Cir. 1986), based on the forgoing, it is submitted that Yamamoto does not anticipate independent claim 1, nor any claim dependent thereon.

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplotmatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 1 is patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also patentable. In addition, it is respectfully submitted that the dependent claims are patentable based on their own merits by adding novel and non-obvious features to the combination.

Based on the foregoing, it is respectfully submitted that all pending claims are patentable over the cited prior art. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 102 be withdrawn.

### CONCLUSION

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

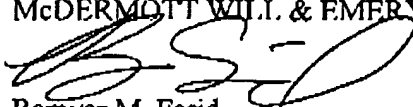
To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper,

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including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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